CLAIMS

[0087] What is claimed is:

- 1. An apparatus comprising:
 - a demodulator to demodulate a received signal by selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between said received signal and said channel-influenced codeword.
- 2. The apparatus of claim 1 wherein said demodulator is able to determine said proximity relation by calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword.
- 3. The apparatus of claim 1 comprising an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples.
- 4. The apparatus of claim 3 wherein said filter comprises a finite impulse response matched filter.
- 5. The apparatus of claim 1 comprising a decoder to select said demodulated codeword out of a set of possible codewords, based on a filtered signal and an energy-related function of said channel-influenced codeword.
- 6. The apparatus of claim 5 comprising:
 - a decision feedback equalizer to calculate an inter symbol interference of said demodulated codeword; and
 - an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples,
 - wherein said filtered signal comprises a combination of said interference and an output of said filter.
- 7. The apparatus of claim 5 wherein said decoder comprises a fast walsh transform correlator.
- 8. The apparatus of claim 1 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.

9. A system comprising:

a first communication device to transmit a signal through a communication channel; and

a second communication device able to receive said signal, said second device comprises a demodulator to demodulate a received signal by selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between said received signal and said channel-influenced codeword.

- 10. The system of claim 9 wherein said demodulator is able to determine said proximity relation by calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword.
- 11. The system of claim 9 wherein said second device comprises an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples.
- 12. The system of claim 11 wherein said filter comprises a finite impulse response matched filter.
- 13. The system of claim 9 wherein said second device comprises a decoder to select said demodulated codeword out of a set of possible codewords, based on a filtered signal and an energy-related function of said channel-influenced codeword.
- 14. The system of claim 13 wherein said second device comprises:
 - a decision feedback equalizer to calculate an inter symbol interference of said demodulated codeword; and
 - an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples,
 - wherein said filtered signal comprises a combination of said interference and an output of said filter.
- 15. The system of claim 13 wherein said decoder comprises a fast walsh transform correlator.

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- 16. The system of claim 9 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.
- 17.A wireless communications device comprising:

An omni-directional antenna able to send and receive signals;

- a demodulator to demodulate a received signal by selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between said received signal and said channel-influenced codeword.
- 18. The wireless communications device of claim 17 wherein said demodulator is able to determine said proximity relation by calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword.
- 19. The wireless communications device of claim 17 comprising an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples.
- 20. The wireless communications device of claim 17 wherein said filter comprises a finite impulse response matched filter.
- 21. The wireless communications device of claim 17 comprising a decoder to select said demodulated codeword out of a set of possible codewords, based on a filtered signal and an energy-related function of said channel-influenced codeword.
- 22. The wireless communications device of claim 21 comprising:
 - a decision feedback equalizer to calculate an inter symbol interference of said demodulated codeword; and
 - an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples,
 - wherein said filtered signal comprises a combination of said interference and an output of said filter.
- 23. The wireless communications device of claim 21 wherein said decoder comprises a fast walsh transform correlator.

24. The wireless communications device of claim 17 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.

25.A method comprising:

selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between a received signal and said channel-influenced codeword.

- 26. The method of claim 25 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.
- 27. The method of claim 25 comprising calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword to determine said proximity relation.
- 28.An article comprising a storage medium having stored thereon instructions that, when executed by a processing platform, result in:

selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between a received signal and said channel-influenced codeword.

- 29. The article of claim 28 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.
- 30. The article of claim 28 wherein said instructions result in calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword to determine said proximity relation.

31.A demodulator comprising:

an intermittent filter to individually sample a received codeword containing sampled symbols of a received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples;

a correlator to compute one or more correlation values, corresponding to a correlation between a filtered signal and one or more respective codewords;

a subtractor to subtract an energy-related function from an output of said correlator; and

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- a selector to select a demodulated codeword corresponding to a maximum value output of said subtractor.
- 32. The demodulator of claim 31 wherein said filtered signal comprises symbols contained in an output of said filter
- 33. The demodulator of claim 31 comprising a decision feedback equalizer to calculate an inter symbol interference of said demodulated codeword, wherein said filtered signal comprises a combination of said interference and symbols contained in an output of said filter.
- 34. The demodulator of claim 31 wherein said intermittent filter comprises a finite impulse response matched filter.
- 35. The demodulator of claim 31 wherein said correlator comprises a fast walsh transform correlator.